

USPTO Serial Number: 09/837,807

Clarke, Hernan J.

Response to Office Action dated December 27, 2004

REMARKS

Claim 1 has been canceled and thereby withdrawn from further consideration.

The Office Action rejects claim 1 under 35 U.S.C. 101. Again, Applicant has canceled claim 1. The rejection is rendered moot.

Applicant has added new claims 2-23, in part, to overcome the rejection under 101. New claim 2 recites a computer system. A data organizer receives work card data into the computer system. Claim 2 is believed to recite structure to place the instant invention within the technological arts. New claim 12 recites a computer implemented method for performing production scheduling. The method involves organizing work card data into sets of data components which a computer system derives from the work card data. New claim 12 is believed to recite structure and functionality to place the instant invention within the technological arts. New claim 19 recites a computer implemented method for performing production scheduling. The method uses a computer system to define a work card template. The computer system receives first operational work card data which is organized into a first data set. The method concludes by the computer system performing a scheduling function on the first data set using an available plurality of scheduling parameters. New claim 19 is believed to recite structure and functionality to place the instant invention within the technological arts.

The Office Action rejects claim 1 under 35 U.S.C. 102(b) as being anticipated by Howie et al. Again, applicant has canceled claim 1. The rejection is rendered moot.

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Applicant has added new claims 2-23, in part, to better distinguish over the Howie and the other prior art references not relied upon. New independent claim 2 is directed to a computer system for performing production scheduling. A data organizer receives work card data into the computer system. The data organizer parses the work card data into predetermined sets of data components according to processing requirements of a plurality of scheduling parameters. The data organizer compares the first set of the data components with a second set of the data components to identify a dependency between the first and second sets of the data components. The data organizer links the first and second sets of the data components in a linking relationship. A data storage device is coupled to an output of the data organizer. The data storage device stores the first and second sets of the data components which are received from the data organizer. A data processing application performs scheduling calculations upon the first and second sets of the data components using the plurality of scheduling parameters. A communication channel is respectively coupled between the data storage device and the data processing application for routing the first and second sets of the data components to the data processing application.

Applicant respectfully suggests that Howie neither teaches nor suggests a data organizer which, as part of the process of loading information into the system, compares a first set of data components which are representative of individual work cards with a second set of data components to identify a dependency between the first and second sets of data components. Howie makes no mention of an automated comparison function on the data which is performed by the system. A "skeleton of a

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work order is displayed on [a] screen and contains at least the earliest start date and the desired finished date specified by the customer" (see column 11, lines 23-24). An operator must make the determination whether any schedule information is missing. Moreover, the operator must physically populate fields which contain missing information or move parameters from one work order to another by hand.

In contrast, in the instant application the data organizer includes an automated comparison function which occurs when a new work order is loaded into the system. For example, work card identification data associated from work order work cards is compared with card identification data associated with work card templates. If a match is found, the production parameters from the work card template are copied over to the work order's work card.

In addition, Howie neither teaches nor suggests a system in which the first and second sets of data components (reflective of first and second operational work cards) are compared to determine whether the first set of data components is dependent on the second set of data components.

In the instant application, if a dependency is found, the dependent sets of data components are linked together in a linking relationship. The sets of data components are dependent if the execution of the first set depends on the execution of the second set. As specified in the instant application, the linking relationship may be a start-to-start, start-to-finish, finish-to-start or finish-to-finish relationship, or another linking relationship. Neither Howie nor the other prior art of record teaches or suggests this linking function to obtain the specified linking relationship.

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The instant system provides advantages over that taught or suggested by Howie and the other prior art of record. By further automating the data organization process performed by the data organizer, an end user is not required to populate empty fields of information, move parameters from a work list to another work list or even compare sets of data to check to see if parameters or other data are missing. Moreover, because the system automatically establishes linked relationships between dependent sets of data, those relationships can automatically come into play when a user performs scenario-based scheduling calculations on the data.

Claim 2 is believed to patentably distinguish over the Howie reference. Claims 3-11 are believed to be in condition for allowance as each is dependent from an allowable base claim.

Applicant has added new independent claim 12. Claim 12 is directed to a computer implemented method for performing production scheduling using work card data. A first set of data components, having been derived from the work card data, is organized according to processing requirements of a plurality of scheduling parameters. The first set of data components is compared with a second set of data components derived from the work card data to identify a dependency between the first and second set of data components. A production parameter from a work card data template is copied to the first set of data components. The first and second sets of data components are linked based on the dependency between the first and second sets of data components. The first and second sets of data components are stored. Scenario-based forecasting calculations are performed upon the first and second sets of data components based on the plurality of scheduling parameters.

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Again, Howie neither teaches nor suggests an automated comparison function as previously described (again, as part of an initial process of loading data into the system) where the first set of data components is compared with a second set of data components (both again derived and representative of work cards) to identify a dependency between the sets of data components. Neither Howie nor the other prior art of record teaches nor suggests the described comparison function which includes copying a production parameter from a work card data template to the first set of data components. Moreover, neither Howie nor the other prior art of record teaches nor suggests an automated linking function whereby the sets of data components are linked in a linking relationship based on an identified dependency between the sets of data components.

In addition to the foregoing, Howie neither teaches nor suggests a scheduling function where a scenario-based forecasting function is performed on the sets of data components. In contrast, the present invention performs a scheduling function which includes a scenario-based, "what-if" analysis that allows a user to actually test various, user-defined scenarios. The what-if analysis compares the baseline schedule with other schedule configurations. A user can use the system's graphical user interface to select a "what-if" button to turn the specific function on. Because the instant system has already pre-linked sets of data components which are dependent, the sets of data components which are representative of linked work cards can be moved or manipulated as a whole as part of the scenario-based analysis. The present invention also includes several additional forecasting calculation options

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which can be executed. These options include an automatic optimization process which includes a leveling optimization.

Claim 12 is believed to patentably distinguish over the Howie reference. Claims 13-18 are believed to be in condition for allowance as each is dependent from an allowable base claim.

Applicant has added new independent claim 19. Claim 19 is directed to a computer implemented method for performing production scheduling. A work card data template is defined. First operational work card data is received and organized into a first data set. Work card identification data derived from the first data set is compared with the work card data template to identify a match between the work card data template and the first data set. A production parameter is copied from the work card data template to the first data set. The first data set is compared with a second data set representative of a second operational work card to identify a dependency between the first and second data sets. The first and second data sets are linked together in a linking relationship. A first descriptive parameter of the first data set is changed to match a second descriptive parameter of the work card data template in the event that the work card data template and the first data set do not match. Expected non-routine scheduling tasks are added to the first data set. The first data set is sorted into an available plurality of locations based on the operational status of the first data set. Finally, a scheduling function on the first data set is performed. The scheduling function is based upon an available plurality of scheduling parameters. The scheduling function includes an optional, user defined, scenario-based forecasting tool.

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Again, Howie neither teaches nor suggests an automated comparison function as previously described where the first data set is compared with a second data set (both again derived and representative of work card data) to identify a dependency between the data sets. Neither Howie nor the other prior art of record teaches or suggests the described comparison function which includes copying a production parameter from a work card data template to the first data set. Moreover, neither Howie nor the other prior art of record teaches or suggests an automated linking function whereby the data sets are linked in a linking relationship based on an identified dependency between the data sets.

Neither Howie nor the other prior art of record teaches or suggests the described function of changing a first descriptive parameter of the first data set to match a second descriptive parameter of the work card data template in the event that the work card data template and the first data set do not match. In Howie, scheduling parameters (as opposed to descriptive parameters) are adjusted by a user based on his "experience and stored data". Howie does not teach or suggest the automated function of changing descriptive parameters of work card data so that descriptive parameters associated with respective data sets match the work card data template.

In contrast, the instant system works to automate this task, by checking such parameters as a zone description (which describes a location on the work piece, such as an aircraft) to see if it matches the zone description in the work card template. The instant system works to compare the skill description of work card data with the work card data template. If there is a non-match, the first data set (work order's work

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card data) is changed to match the work order data template's description. These automated tasks, performed by the system itself, serve to alleviate additional work on the part of a user to organize, import and schedule work tasks.

Again, in addition to the foregoing, Howie neither teaches nor suggests a scheduling function where a scenario-based forecasting function is performed on the first data set. In contrast, the present invention performs a scheduling function which includes a scenario-based, "what-if" analysis. The "what-if" analysis compares the baseline schedule with other schedule configurations. A user can use the system's graphical user interface to select a "what-if" button to turn the specific function on. Because the instant system has already pre-linked sets of data sets which are dependent, the data sets which are representative of linked work cards can be moved or manipulated as a whole as part of the scenario-based analysis. The present invention also includes several additional forecasting calculation options which can be executed. These options include an automatic optimization process which includes a leveling optimization.

Claim 19 is believed to patentably distinguish over the Howie reference. Claims 20-23 are believed to be in condition for allowance as each is dependent from an allowable base claim.

Applicant believes that all information and requirements for the application have been provided to the USPTO. If there are matters that can be discussed by telephone to further the prosecution of the Application, Applicant invites the Examiner to call the undersigned attorney at the Examiner's convenience.

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The Commissioner is hereby authorized to charge any fees
due with this Response to U.S. PTO Account No. 17-0055.

Respectfully submitted,
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